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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/069,352	08/07/2002	Gilbert Wolrich	10559-308US1	7931
20985	7590	09/14/2006	EXAMINER	
FISH & RICHARDSON, PC P.O. BOX 1022 MINNEAPOLIS, MN 55440-1022			HUISMAN, DAVID J	
			ART UNIT	PAPER NUMBER
			2183	

DATE MAILED: 09/14/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/069,352	WOLRICH ET AL.	
	Examiner	Art Unit	
	David J. Huisman	2183	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 June 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-38 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6, 8-11, 13, 14, 16, 17, 20-25, 27-30, 32, 33, 35 and 36 is/are rejected.
- 7) ☒ Claim(s) 7, 12, 15, 18, 19, 26, 31, 34, 37 and 38 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 June 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Claims 1-38 have been examined.

Papers Submitted

2. It is hereby acknowledged that the following papers have been received and placed of record in the file: RCE, Amendment, and Extension of Time as received on 6/26/2006.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 21-23 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

5. Claim 21 recites the limitation "the register field" in line 1. There is insufficient antecedent basis for this limitation in the claim. Please replace "the register field" with --the register--.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who

has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

7. Claim 1-2, 5-6, 8-10, 20-21, 24-25, and 27-29 are rejected under 35 U.S.C. 102(e) as being anticipated by Borkenhagen et al., U.S. Patent No. 6,697,935 (herein referred to as Borkenhagen).

8. Referring to claim 1, Borkenhagen has taught a method of operating a processor comprising:

a) receiving data specified by execution of a fast-write instruction in a processing thread identified by a processing thread number. See column 14, lines 3-18. Note that an instruction is used to set or clear bits in the thread switch control register. Data is received which will set or clear the bits in the register. Furthermore, since Borkenhagen talks about thread switching, there are multiple threads in the system. See column 4, lines 29-32, and note the existence of a thread number, which must inherently exist. That is, the system must know which thread is the 1st thread, the 2nd thread, the 3rd thread, etc. Otherwise, there would be no way for the system to switch among threads.

b) selecting bit positions of a register specified by execution of the fast-write instruction according to the processing thread number. See column 14, lines 3-13. Note that in one

embodiment, multiple thread switch control registers (one for each thread) may be implemented for more flexibility (i.e., different threads may be switched out for different reasons). With multiple registers, when a thread is to execute an instruction to modify its control register, the appropriate control register is specified according to the processing thread number. For instance, if the first thread is executing, then the first control register is selected. It should be noted that applicant has not claimed selecting some portion of bits in a single register where the selecting is based on the thread number.

c) loading the data into the selected bit positions of the register. See column 14, lines 3-64.

9. Referring to claim 2, Borkenhagen has taught a method as described in claim 1.

Borkenhagen has further taught that the register is a control and status register (CSR). See column 14, lines 3-64.

10. Referring to claim 5, Borkenhagen has taught a method as described in claim 1.

Borkenhagen has further taught that the data represents hexadecimal mask values 0 to 0x3FF.

Note from the table in column 14, that the control register is at least 32 bits. So, it could contain values from 0 to FFFFFFFF (0 to 4,294,967,295), which includes 3FFF (16383). Consequently, the data represents values in the range 0 to 3FF.

11. Referring to claim 6, Borkenhagen has taught a method as described in claim 1.

Borkenhagen has further taught that the processing thread represents processing in a micro engine of a multithreaded processor. The abstract discloses that Borkenhagen is a multithreaded processor and there must be a micro-engine (execution unit) to process the threads.

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12. Referring to claim 8, Borkenhagen has taught a method as described in claim 1.

Borkenhagen has further taught that the fast-write instruction comprises a token. The word to be written into the control register is the token.

13. Referring to claim 9, Borkenhagen has taught a method as described in claim 8.

Borkenhagen has further taught that the token represents overriding qualifiers. Since the instruction writes to a control register using the data provided in the instruction, the data represents overriding qualifiers as everything already in the control register will be overridden by new data to be written.

14. Referring to claim 10, Borkenhagen has taught a method as described in claim 8.

Borkenhagen has further taught that the token is a 32-bit word. See the table in column 14 and note that the control register is 32-bits in a 32-bit implementation. Consequently, the data to be written to the register would be 32 bits (32-bit token).

15. Referring to claims 20-21, 24-25, and 27-29, claims 20-21, 24-25, and 27-29 are rejected for the same reasons set forth in the rejection of claims 1-2, 5-6, and 8-10, respectively, because Borkenhagen has taught instructions stored on a medium for performing the method of claims 1-2, 5-6, and 8-10.

Claim Rejections - 35 USC § 103

16. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

17. Claims 3-4, 11, 13-14, 16-17, 22-23, 30, 32-33, and 35-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Borkenhagen.

18. Referring to claim 3, Borkenhagen has taught a method as described in claim 2. Borkenhagen has not explicitly taught that the control and status register is coupled to a 64-bit wide first-in first-out (FIFO) bus. However, as shown in In re Rose, 105 USPQ 237 (CCPA 1955), changes in size are generally not given patentable weight or would have been an obvious improvement. Specifically, the size of Borkenhagen's but does not appear to be disclosed, but a 64-bit bus is a common bus size, which allows for more data to be passed along than a 32-bit bus or 16-bit bus. Consequently, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Borkenhagen's bus to be 64-bits wide. Furthermore, the bus is inherently FIFO because data that is sent over the bus at time A will arrive at its destination before data that is sent over the bus at time B (where $B > A$).

19. Referring to claim 4, Borkenhagen has taught a method as described in claim 3. Furthermore, it is deemed inherent in Borkenhagen that the FIFO bus interfaces with Media Access Controller (MAC) Devices. There must be a device which controls the means for communicating across a bus.

20. Referring to claim 11, Borkenhagen has taught a method as described in claim 10. Borkenhagen has further taught that a token format comprises data in bits 31:0 (see the table in column 14). Borkenhagen has not explicitly taught that the data in bit 31 corresponds to an OV field, the data in bits 30:28 corresponds to a micro engine (UENG) ADDR field, the data in bits 27:16 corresponds to a reserved field, the data in bit 15 corresponds to an OV field, the data in bits 14:5 corresponds to a fast write data field, the data in bits 4:3 corresponds to a reserved field,

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the data in bit 2 corresponds to an OV field, and the data in bits 1:0 corresponds to a CTX field. However, these differences are only found in the nonfunctional descriptive material as the dividing up of the token bits into named fields does not affect how the token data is used to control the system. For instance, bit 31 of the control register in Borkenhagen has a meaning in the system whether or not it is called an OV field or not. Thus, the descriptive material will not distinguish the claimed invention from the prior art in terms of patentability. See *In re Gulack*, 703 F.2d 1381, 1385, 217 USPQ 401, 404 (Fed. Cir. 1983); *In re Lowry*, 32 F.3d 1579, 32, USPQ2d 1031 (Fed. Cir. 1994). Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to call a bit or any group of bits in the token a particular type of field as it does not alter how the data controls the system. Applicant should explain what each field does in order to overcome the prior art.

21. Referring to claim 13, Borkenhagen has taught a method as described in claim 11. Borkenhagen has not taught that bits 30:28 specify a micro engine associated with a control and status register (CSR). However, bits 12-14 do specify a store unit switch. See the table in column 14. As shown in *In re Japikse* 86 USPQ 70 (CCPA 1950), to shift locations of parts (bits) is not given patentable weight or would have been obvious an obvious improvement. Consequently, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Borkenhagen such the bits 14:12 are instead bits 30:28 and vice-versa.

22. Referring to claim 14, Borkenhagen has taught a method as described in claim 11. Borkenhagen has further taught that bits 27:16 return 0 when read. That is, if bits 27:16 are all set to 0, then when read, the value 0 would be obtained.

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23. Referring to claim 16, Borkenhagen has taught a method as described in claim 11.

Borkenhagen has further taught that bits 14:5 represent valid data to be written to a control and status register (CSR). Each bit in the 32 bit-data word to be written to the CSR is a valid bit, including bits 14:5.

24. Referring to claim 17, Borkenhagen has taught a method as described in claim 11.

Borkenhagen has further taught that bits 4:3 return 0 when read. That is, if bits 4:3 are all set to 0, then when read, the value 0 would be obtained.

25. Referring to claims 22-23, claims 22-23 are rejected for the same reasons set forth in the rejection of claims 3-4, respectively, because Borkenhagen has taught instructions stored on a medium for performing the method of claims 3-4.

26. Referring to claims 30, 32-33, and 35-36 are rejected for the same reasons set forth in the rejection of claims 11, 13-14, and 16-17, respectively, because Borkenhagen has taught instructions stored on a medium for performing the method of claims 11, 13-14, and 16-17.

Allowable Subject Matter

27. Claims 7, 12, 15, 18-19, 26, 31, 34, and 37-38 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David J. Huisman whose telephone number is (571) 272-4168. The examiner can normally be reached on Monday-Friday (8:00-4:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eddie Chan can be reached on (571) 272-4162. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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September 6, 2006


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